



# NGA Governor's Energy Forum 2006

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The New Generation of Transportation Fuels

Deputy Commissioner Paul Sloan

Tennessee Department of Environment and Conservation

December 12, 2006

Wilmington, Delaware



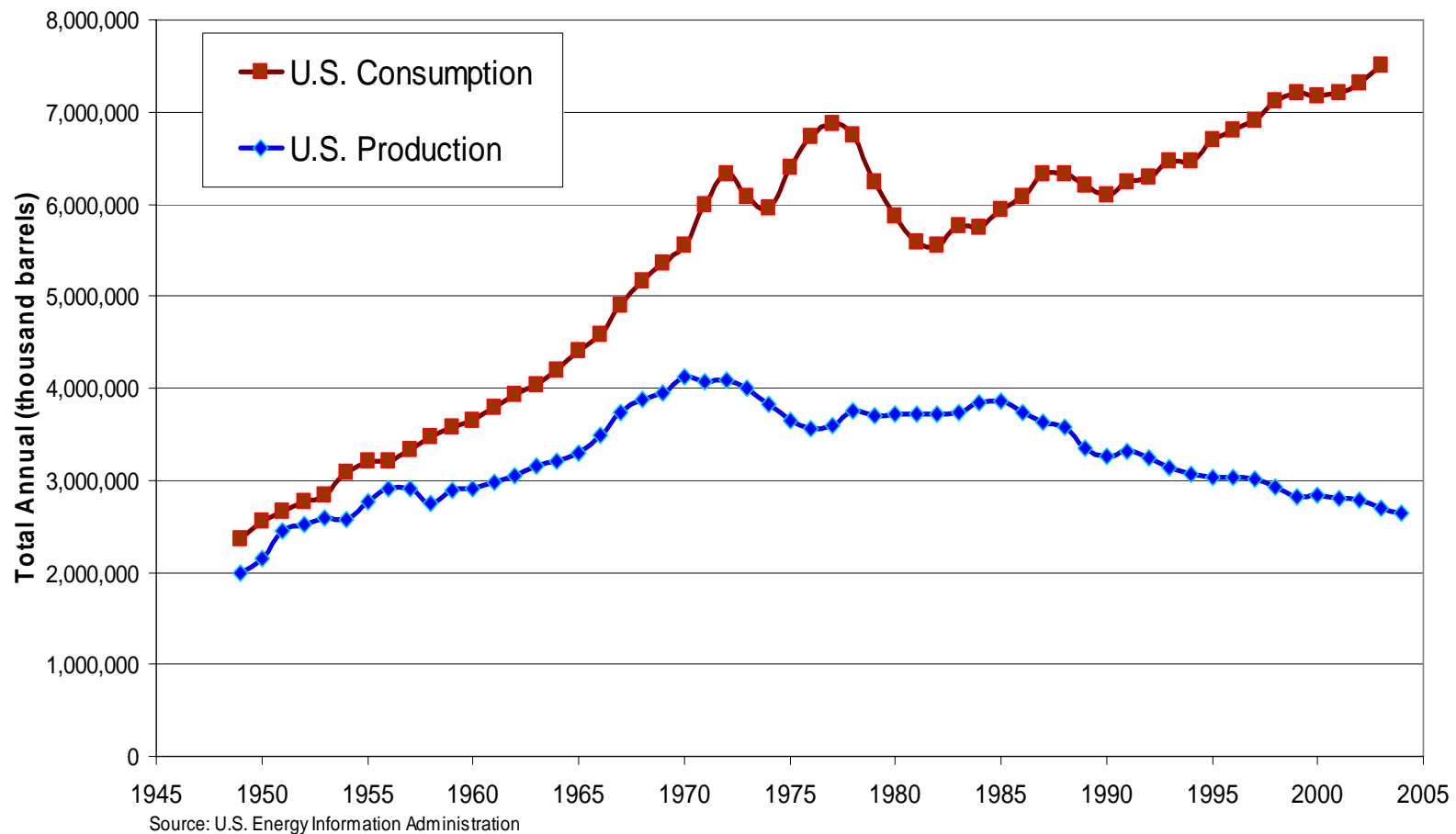
# Converting Challenges into Opportunities

## **Biofuels have potential to impact:**

- ❑ National Security
- ❑ Rural Economic Development
- ❑ Public Health and Environmental Quality



# Increasing U.S. Dependence on Foreign Oil





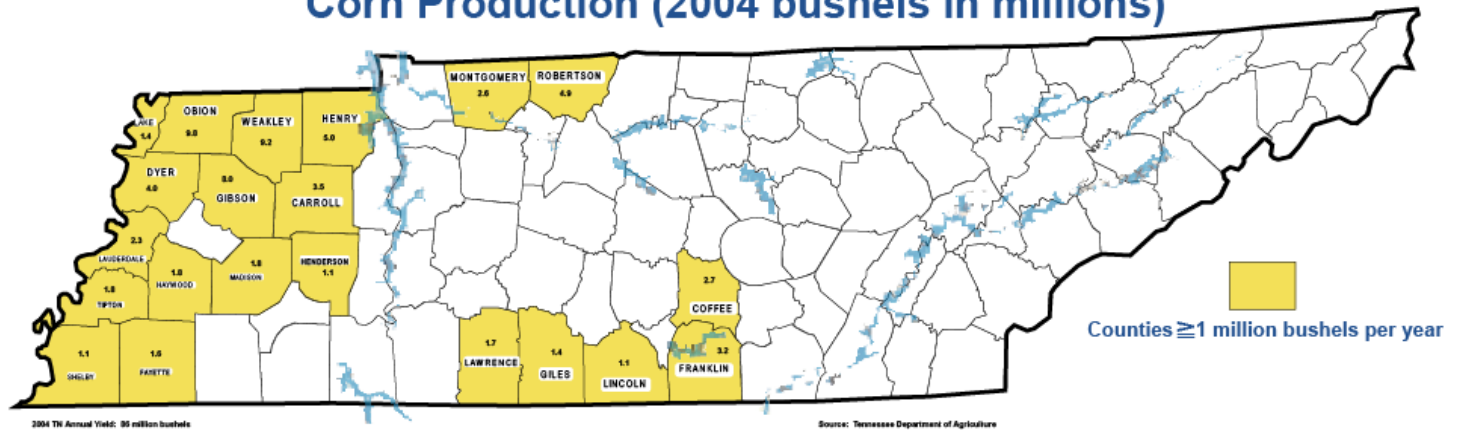
# Increase Demand for Farm Products and Income

## Corn and Soybean Production in Tennessee

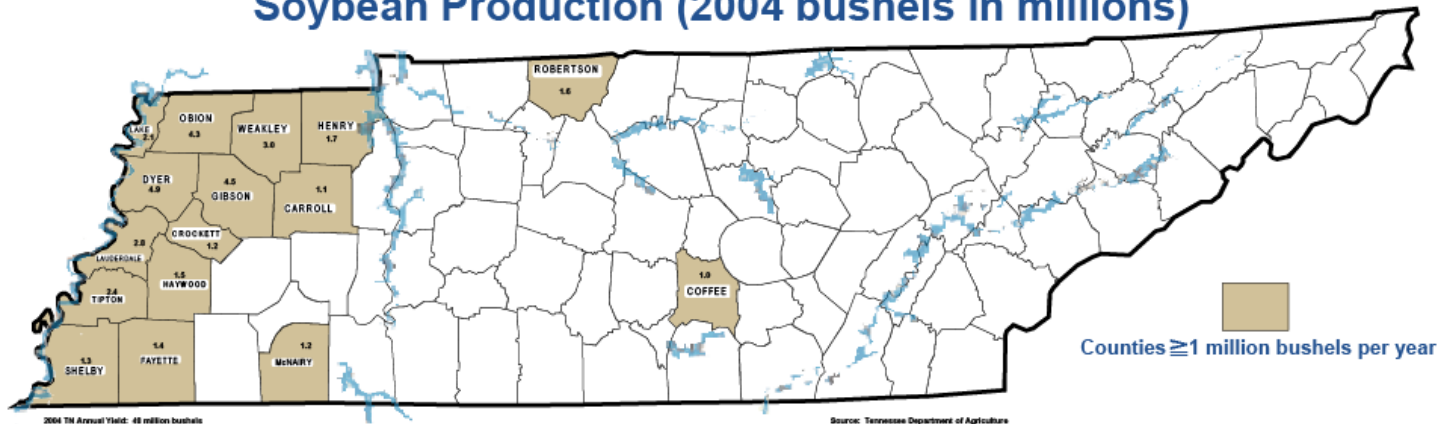
Corn: 615,000 acres, 81.6 million bushels

Soybean: 1.2 million acres, 48.4 million bushels

### Corn Production (2004 bushels in millions)



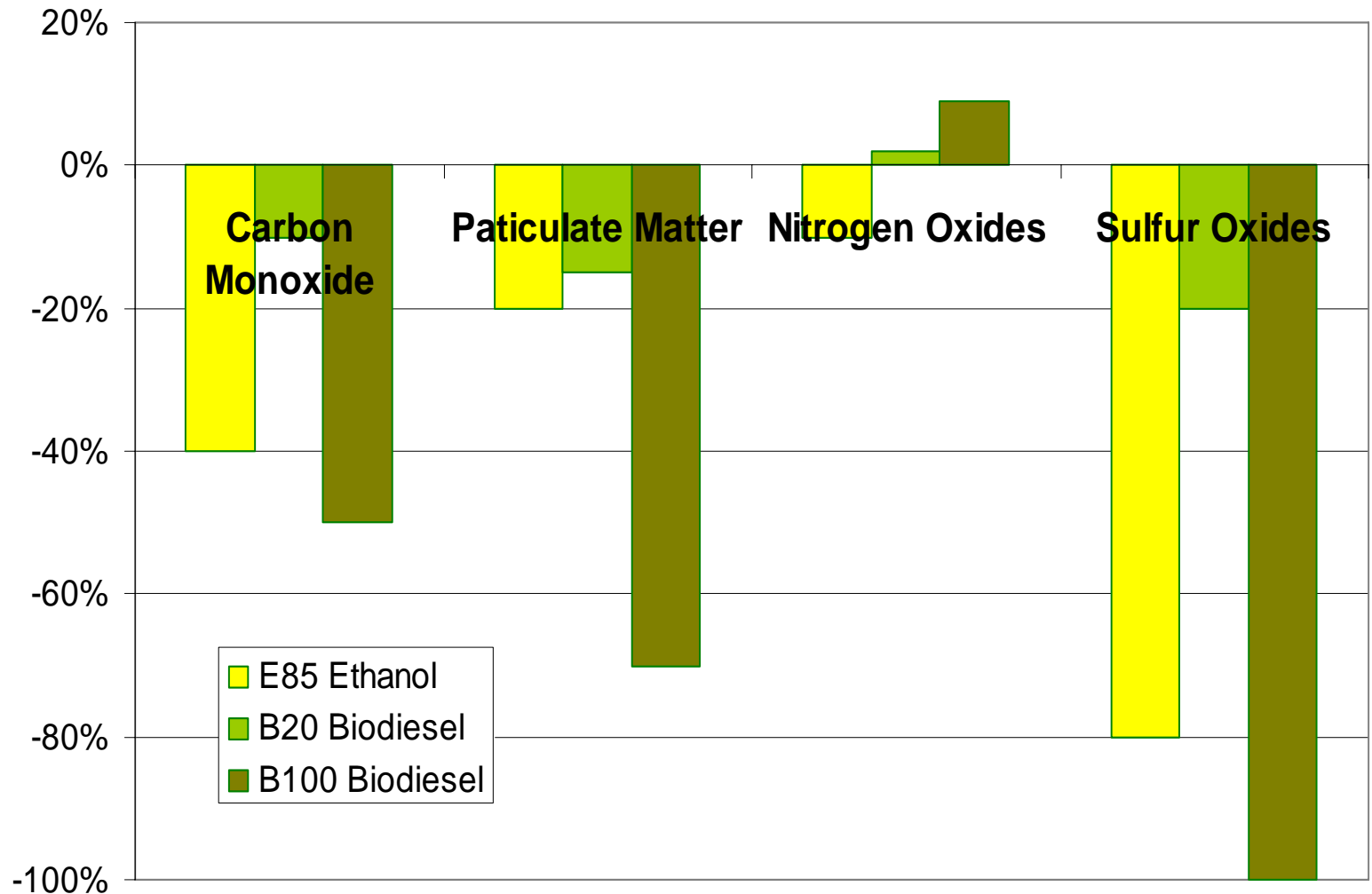
### Soybean Production (2004 bushels in millions)





# Health and Environmental Benefits

## Emission Reductions with Alternative Fuel Use





# Tennessee Energy Division

**\$1.8 million** total funds spent over past five years



**SOURCE of FUNDS** for Tennessee Energy Division support of biofuels:

**USDOE State Energy Program (SEP)** supports Clean Cities activities

**USDOE Petroleum Violation Escrow (PVE)** funds derived from settlement payments

**USDOE-Special Projects** awarded through a competitive DOE process

**NOTE:** Includes **\$1.14** million in obligated funds still open to local governments for biodiesel infrastructure grants.



# Governor Bredesen's Leadership



STATE OF TENNESSEE  
EXECUTIVE ORDER  
BY THE GOVERNOR

Number 33

AN ORDER TO ESTABLISH THE GOVERNOR'S INTERAGENCY  
ALTERNATIVE FUELS WORKING GROUP

**WHEREAS**, this Administration is dedicated to the protection of our natural resources, our environment, our economy and the health of Tennessee's citizens; and

**WHEREAS**, the increased use of renewable alternative fuels, such as biodiesel and ethanol ("biofuels"), made from agricultural products will provide greater diversity in the state's energy supplies, help reduce dependence on imported oil, and strengthen the state's ability to withstand future fuel supply disruptions and spikes in fuel prices; and

**WHEREAS**, the increased use of biofuels and the local production of biodiesel and ethanol using domestic crops and other raw materials as feedstock will benefit Tennessee's rural communities and agricultural economy; and

**WHEREAS**, air pollutants from vehicles and other mobile sources have a significant impact on air quality in the state, and the use of alternative fuels can help reduce vehicle emissions; and

**WHEREAS**, state government should take the lead in promoting the efficient use of natural resources to protect and enhance the state's environment, the health of its citizens and its economy.

**NOW THEREFORE**, I, Phil Bredesen, Governor of the State of Tennessee, by virtue of the power and authority vested in me by the Tennessee Constitution and law, do hereby order and direct the following:

1. The Governor's Interagency Alternative Fuels Working Group ("Working Group") is hereby established. The Working Group shall consist of the following six (6) members or their designees:
  - a. The Commissioner of Agriculture;
  - b. The Commissioner of Economic and Community Development;
  - c. The Commissioner of Environment and Conservation;
  - d. The Commissioner of General Services;
  - e. The Commissioner of Health; and
  - f. The Commissioner of Transportation
2. The Commissioners of the Departments of Environment and Conservation and Agriculture or their designees shall serve as co-chairpersons of the Working Group.
3. The Working Group shall meet at such times and places as determined by its co-chairpersons and shall make regular reports to the Governor regarding its work.

**Executive Order 33 signed  
on February 14, 2006**

**Six state agencies charged  
with developing a statewide  
alternative fuels strategy.**

**Comprehensive program,  
farm to consumer.**

**Directed state fleet to use  
alternative fuels were  
practicable.**

**\$4 million budget item  
approved for alternative  
fuels in FY2006-2007.**



# Tennessee Alternative Fuels Initiative

## Core Emphases

1. Produce more ethanol and biodiesel
2. Ensure quality of biofuels produced and sold to consumers
3. Increase biofuel availability at retail stations
4. Assist local governments in making biofuels available
5. Communicate the benefits of biofuels to the public
6. Support research and development of cellulosic-based biofuels





# Tennessee Drivers for Alternative Fuels

## ❑ Research

- Oak Ridge National Laboratory
- Universities and Colleges
- University of Tennessee SunGrant Center

## ❑ Production

- Recruitment of Biofuels Industry
- Rural Economic Development: Investment & Jobs

## ❑ Outreach

- DOE Clean Cities Programs
- Public and Private Fleets

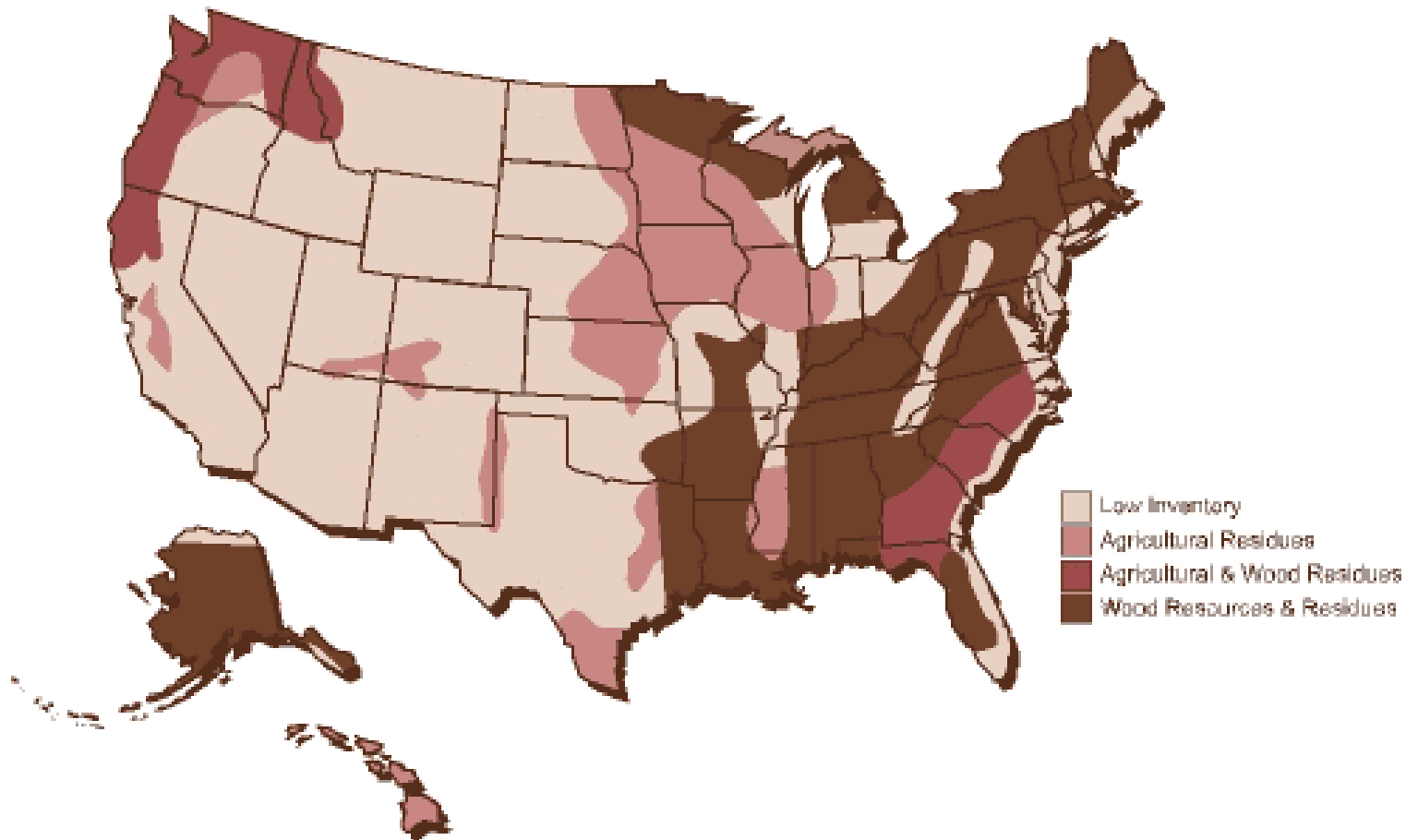
## ❑ Consumption/Usage

- Expanded retail availability



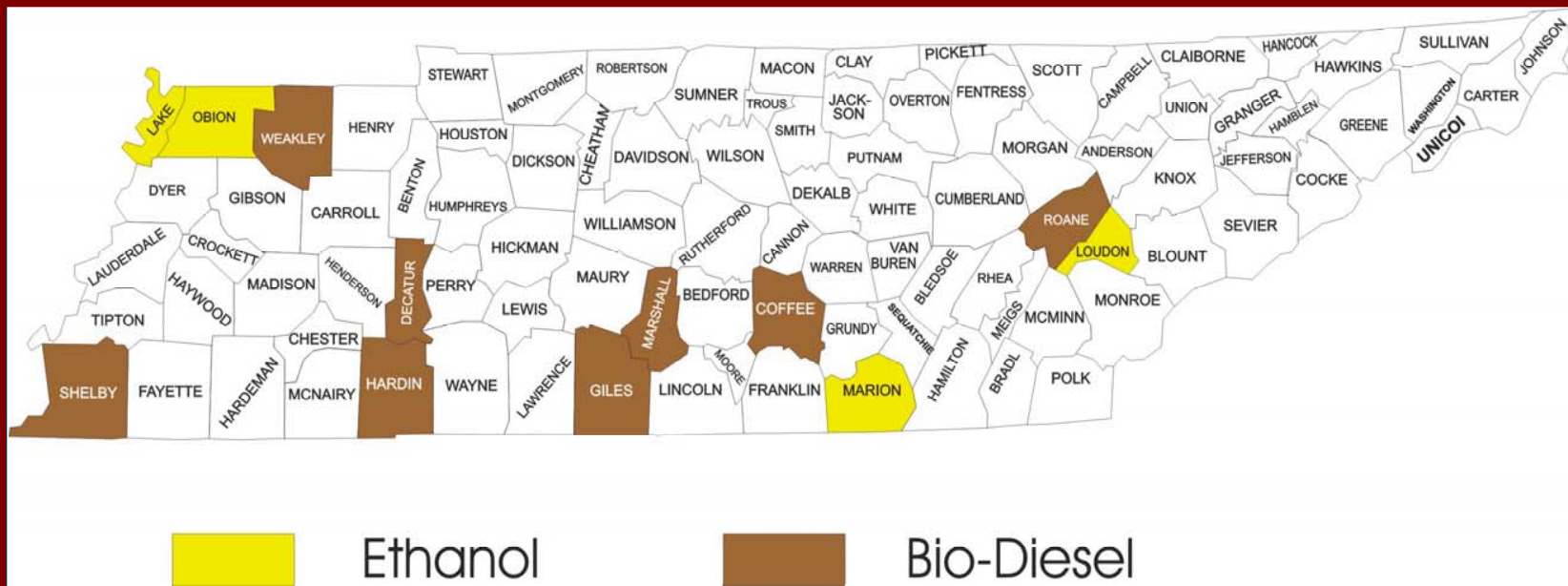
# Research to Capitalize on Natural Advantage

## Biomass Resources





# Ethanol and Biodiesel Projects in Tennessee

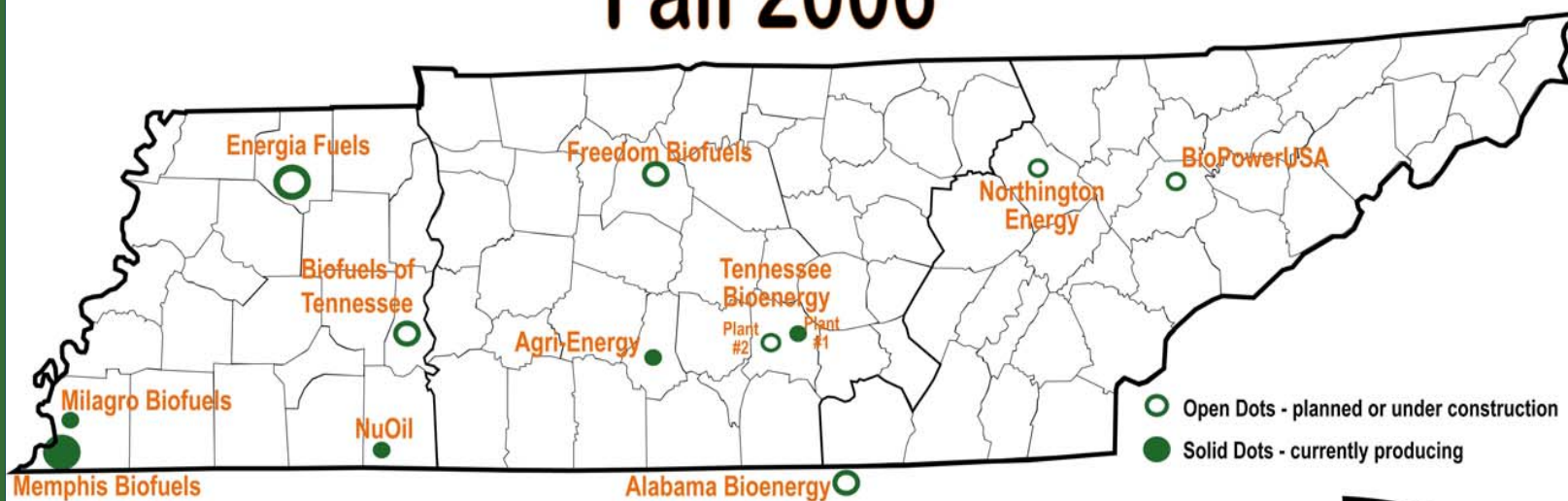


Ethanol Projects: 4 existing or proposed, up to 375 mgy  
Biodiesel Projects: 8 existing or proposed, up to 142 mgy  
mgy: million gallons per year



# From 0 to 75 MGY Biodiesel

## Tennessee Biodiesel Production Fall 2006



MEMPHIS  
**BIOFUELS**

 **NuOil, Inc.**

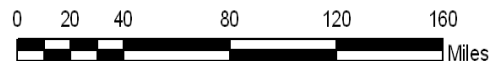
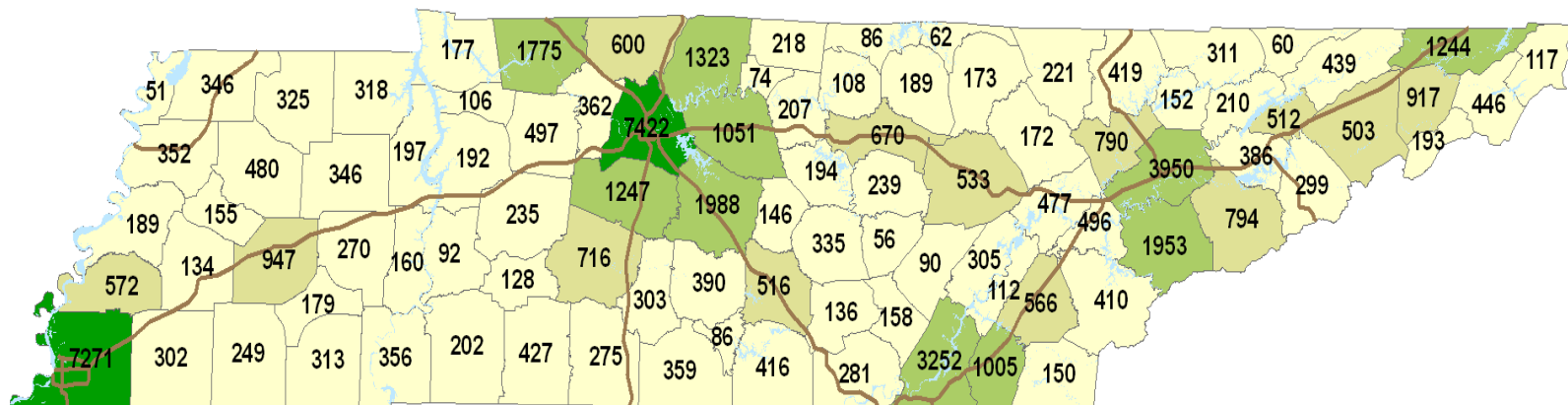
**BioPowerUSA**

CLEAN DOMESTIC RENEWABLE  
**Milagro Biofuels**  
of Memphis

**TBE**  
TENNESSEE BIOENERGY, INC.



# Flexible Fuel Vehicles in Tennessee



## FFVs by County

February, 2006

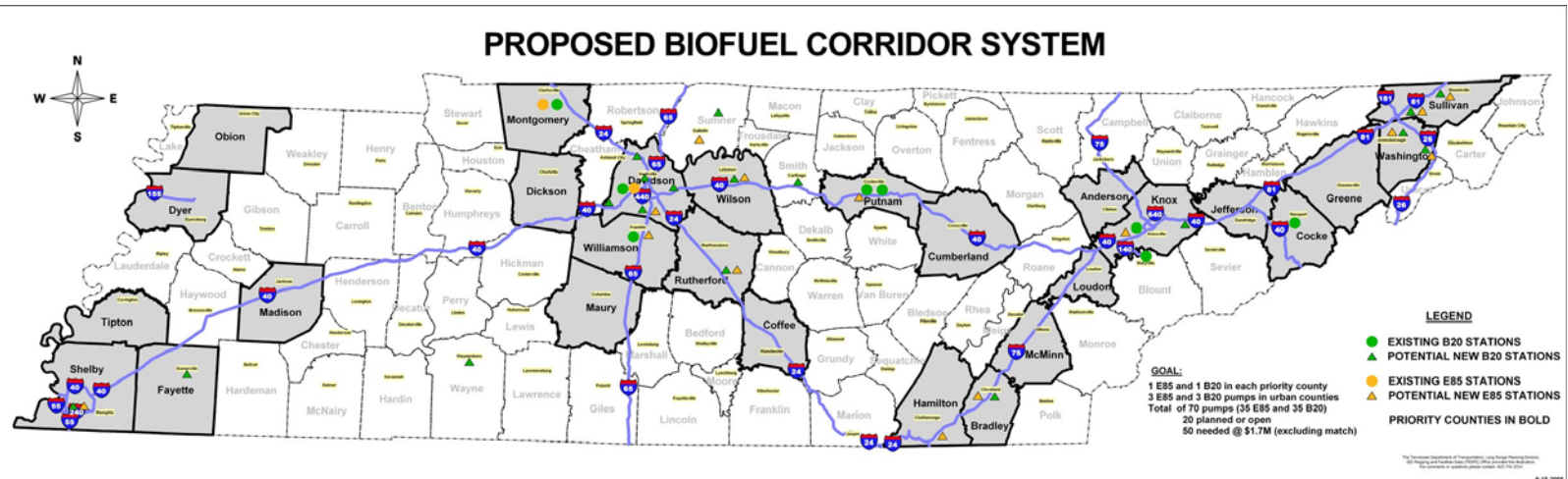


\*Data obtained from the Tennessee Department of Safety, Titling and Registration.

>60,000 FFVs statewide



# “Green Islands” Along Interstate Corridors

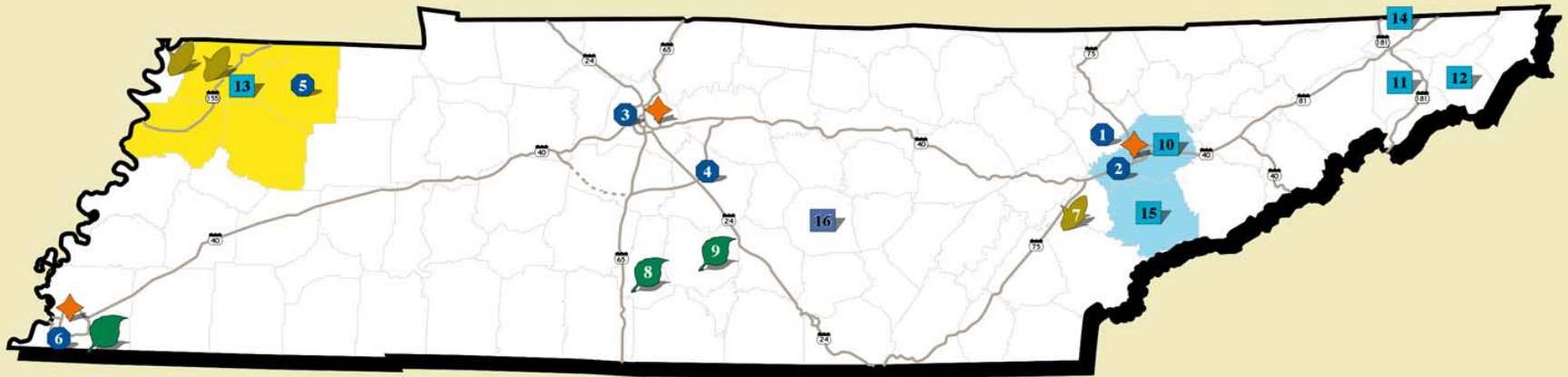


**Phase One:** Retail biofuel pump grant cycle through Tennessee Department of Transportation funded by CMAQ resources; expect to gain 20 new pump installations across Tennessee.

**Phase Two:** Retail biofuel pump grant cycle funded through Alternative Fuels state budget line item; expect to gain 50-75 new pump installations across Tennessee.



# Driving Forces for Biofuels in Tennessee



## Research

- 1 Oak Ridge National Laboratory (ORNL)
- 2 UT SunGrant Center for Biobased Industries
- 3 Tennessee State University
- 4 Middle Tennessee State University
- 5 UT Martin
- 6 University of Memphis

## Outreach

### DOE Clean Cities Programs

- East Tennessee Clean Fuels Coalition
- Clean Cities of Middle Tennessee
- West Tennessee Clean Cities

## Production



Counties growing > 3 mil. bushels corn & soybeans annually

### Ethanol Producers



Tate & Lyle  
Lake County  
Obion County

### Biodiesel Producers



Milagro Biofuels  
Memphis Biodiesel  
GS Biodiesel  
AgriEnergy  
Tennessee BioEnergy

## Biofuel Users



- 10 TDOT Regional Garage-Knoxville
- 11 TDOT Regional Garage-Johnson City
- Cities of Maryville & Alcoa
- Blount County Highway Department
- Knoxville/Knox County/KAT
- Knoxville Utilities Board
- 12 Carter County
- 13 Obion County Schools
- 14 Eastman Chemical
- 15 ALCOA
- 16 McMinnville Electric System



# Capitalizing on Biofuels for Tennessee

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For more information contact:

Paul Sloan

Deputy Commissioner

Department of Environment and Conservation

(615) 532-0102

**[www.tdec.net/altfuels](http://www.tdec.net/altfuels)**